



First-year HDR Training Series

2024

Kick-start your candidature. An exclusive training and development series designed for you.



HDR Technical Training Masterclass

20 May

A one day masterclass led by in-house experts.

First-year HDR students are invited to attend our annual HDR Technical Training Masterclass to gain a broad understanding of some of the major techniques in which IMB has world leading expertise.

To cover the broad spectrum of techniques we use at IMB, courses will be run on:

- Microscopy
- Spectroscopy
- Computational Biology and Bioinformatics

Location: Large Seminar Room, Queensland Bioscience Precinct (Building 80)

Understanding the basics of the capabilities we have at IMB will enable you to talk across disciplines and make the most of the amazing tools at the disposal. Remember, it's impossible to know where your project will lead you so understanding all the tools available to you will enable you to answer your question as deeply and precisely as possible.

The masterclass will include didactic talks by our inhouse experts, group activities, and the choice of a special tour of the spectroscopy and microscopy facilities or practical session on bioinformatics.



9AM – 10AM

Session 1: Spectroscopy technical training

This seminar will provide you with an introduction and overview of the range of spectroscopic technologies available at the Institute for Molecular Bioscience, including Surface Plasmon Resonance, Nuclear Magnetic Resonance, Mass Spectrometry, and Flow Cytometry. We will cover where the facilities are located, what is available, how you can access them, and outline several typical workflows and applications. This session will provide knowledge of the broad range of technologies available for you to consider during your research career.

Facilitators:

- Nuclear Magnetic Resonance, NMR; **Huy Hoang**
- Mass Spectrometry, MS; **Alun Jones**
- Flow Cytometry, **Sabrina Sofia Burgener**
- Surface Plasmon Resonance, SPR; **Yen-Hua (Crystal) Huang**

10AM – 10:15AM

Morning tea

Discuss the first session with your table group over a complimentary morning tea snack.

10:15AM – 11:15AM

Session 2: Microscopy technical training

Learn from Dr Nicholas Condon about microscopy facilities, how to access them, and the different modalities available at IMB.

[The Australian Cancer Research Foundation \(ACRF\) Cancer Ultrastructure and Function Facility](#) at IMB is a world-leading example of technology designed for discovery. The facility incorporates over twenty instruments ranging from workhorse widefield and confocal microscopes to cutting edge technologies created by contemporary Nobel Laureates such as the Lattice Light-sheet and Stimulated Emission Depletion (STED) super-resolution microscopes. Significant investments have also been made in computing to process, quantify and visualise the bigdata produced by modern microscopes.

Facilitator: Dr Nicholas Condon is a Chan Zuckerberg Initiative Imaging Scientist and Senior Microscopist in the Institute's Microscopy core facility. He works collaboratively with researchers on the cutting-edge microscopes housed in the core facility to help them capture data and to create custom tools to process and analyse the images and movies captured on these devices. He serves on national and international committees for microscopy data and processing and is also part of the Light Microscopy Australia executive committee.

11:15AM – 12:15PM

Session 3: Computational biology and bioinformatics basics

In this short talk, Dr Sally Mortlock will introduce you to computational biology and bioinformatics and some common approaches used to analyse biological datasets. She will cover basic principles, and highlight publicly available bioinformatic resources.

This seminar will expose you to the wealth of bioinformatic approaches and expertise available within IMB and provide you with the knowledge and resources to further develop your skills in computational biology and bioinformatics.

Facilitator: Dr Sally Mortlock, Research Fellow, Institute for Molecular Bioscience

12PM – 1PM

Lunch break

Enjoy a catered lunch on the QBP rooftop with your cohort.

1PM – 3PM

Session 4: Practical session

Tour IMB's microscopy and spectroscopy facilities. See the state of the art instruments, and meet the friendly staff who work in these areas.



HDR Training Week

29–31 May

Kick-start your candidature with HDR Training Week.

Connect with your cohort, network with early career researchers and Group Leaders, and build your skills. Modules will cover:

- Research skills
- Transferable skills
- Professional skills

By the end of the week, you will have a solid foundation for your literature review and an understanding of the many skills required to achieve success in your candidature.

HDR Training Week is designed for first-year PhD students at IMB.

It is an IMB expectation that all first-year students will attend.

First year students are those who commence their PhD in RQ3/4 2023 or RQ1/2 2024.

Attendance is mandatory for all first-year HDR students. You are expected to attend every module over the three days.

Review the program ahead of time. There is a sequence to the modules, with each module building on the next.



DAY 1: Wednesday 29 May

9AM – 12PM

Session 1: Refining your research question(s) and mind mapping for information overload

Developing good research questions and coherently organising large volumes of material are two key challenges students face at the beginning of their PhD.

This session will equip you with the tools to identify research questions, assess their quality, refine them, and develop appropriate sub-questions.

You will also learn how to use mind maps and multi-level dot point lists to organise your thinking.

In this workshop, you will:

- Learn the differences between research questions, aims, objectives and hypotheses.
- Develop strategies for identifying potential research questions.
- Receive guidance on thematically organising sub-questions for your research, to help guide your reading, note-taking, and writing.

By the end of this workshop, you will have:

- More precisely defined research questions (and possibly objectives), or a framework for developing these once you progress further with your literature review.
- A multi-level list or mind map of focus questions to consider when exploring the literature related to your research aims/objectives.

Requirements:

- A laptop to practice applying the strategies.
- What you have so far in relation to a research project title, aims, objectives, and hypotheses, and/or a clear statement of the problems your research hopes to address.
- If you wish to try a mind mapping app, please bring the [instructional notes on MindMup](#), and ideally have worked through the **Initial Preparations** section of these notes.

About the presenter: Dr David Rowland is a Learning Adviser with Student Services with extensive experience running workshops for HDR students on how to improve their written and oral communication skills, and statistical literacy for research purposes. David's work with HDR students is informed not only by pedagogical literature, but also by reflections on his experiences working with students in workshops and individual consultations. He also utilises his extensive experience gained from writing and reviewing papers for journals, and being the Editor of **The Journal of Academic Language and Learning**. His PhD was in the field of optical communications, so is particularly knowledgeable about communicating effectively in the physical sciences and engineering.

Book an appointment with a Learning Advisor:

If you are having trouble putting the theory from one of our workshops into practice, then you can make a follow-up appointment with a learning adviser for some individual coaching. Learning Advisers can also help you develop or refine other academic communication skills not necessarily covered in our workshops, and provide coaching on how to effectively work with your advisory team.

Learn more about UQ Student Services and book an appointment with a Learning Advisor:



DAY 1: Wednesday 29 May

12PM – 1:30PM

Networking event: Catered lunch and activities with SIMBA and EMCRA

Enjoy a catered lunch on the QBP Rooftop with members of SIMBA and IMB's EMCRA communities. Connect, socialise, and network with IMB's body of post-docs. EMCRA members remember what it is to be a new HDR student and are here to help you along the way.

1:30PM – 2PM

Session 2: Placements information session

Discover how to undertake a placement as part of your PhD with Anneliese Berglind from UQ Graduate School.

Anneliese will be available to answer your questions and explain the timeline for conducting a successful placement within your PhD.

Facilitator: Anneliese Berglind, Manager (Engagement & Development), UQ Graduate School

2PM – 3PM

Session 3: PhD Placements Q&A

Hear from current HDR students at IMB and AIBN who have successfully completed a placement as part of their PhD. Listen to their stories, learn from their mistakes, and be inspired to weave a similar opportunity into your training.



DAY 2: Thursday 30 May

9AM – 10:30AM

Session 4: Writing a confirmation document

Confirmation marks a critical step in your candidature. It is vital you are prepared for this important Progress Review. Part of the process requires you to prepare a confirmation document: a document that will serve to convince the University that your research is worth resourcing.

In this workshop, you will:

- Gain an understanding of the purpose of a confirmation document
- Examine the elements of a confirmation document.
- Learn how to structure a confirmation document to increase your chances of success.

By the end of this workshop, you will:

- Understand the purpose of a confirmation document.
- Know how to start and finish a confirmation and other research proposal-style documents.

Requirements: Bring an idea of your research questions, aims and/or objectives.

About the presenter: Dr Kevan Walter Jones is a Learning Adviser from UQ's Student Services. He specialises in the oft-neglected research skills of writing, reading and public speaking. Kevan trained as a research scientist at UQ, specialising in mycology, plant pathology and fungal pathogenesis. After finishing his PhD in 2014, he transitioned to academic skill teaching and pedagogy.



DAY 2: Thursday 30 May

10:30AM – 12PM

Session 5: Writing a literature review

Are you struggling to critically review the relevant literature? Is it challenging to express to your readers how the literature relates to your research?

In this workshop you will be introduced to a process to use when reading for, and writing, a narrative literature review, along with some simple exercises. These exercises help you to clarify your thinking and strengthen your capacity to communicate your scholarly position to your readers.

This session will provide answers to the questions:

1. What is a literature review?
2. What is its purpose?
3. What does it involve?
4. How should it be structured?
5. What type of language should I use?

By the end of this workshop, you will:

- Understand the purpose of a literature review.
- Be able to effectively review literature.

Requirements: No requirements, although a rough draft will be advantageous.

Presenter: Dr Kevan Walter Jones, Learning Adviser, UQ Student Services.

12PM – 1PM

Lunch break

Unwind from the morning session over lunch. Please bring your own lunch.

1PM – 3PM

Session 6: Build a literature review paragraph scaffold

Building on the “Writing a literature review” workshop, this session will provide you an opportunity to convert your planning and ideas into an idealised scaffold for future review writing.

In this workshop, you will:

- Put the theory and ideas from the previous workshop into practice
- Explore the process of generating and linking ideas in a literature review
- Think about ordering information in a literature review

By the end of this workshop, you will have:

- A plan for a fully developed literature review paragraph, sub-section or section.
- An idea of further structure for reviews, such as meaningful headings and sub-headings.

Requirements: Bring a laptop or pen and paper, and any plans/drafts you have.

Presenters: Dr David Rowland, Learning Adviser, UQ Student Services and Dr Kevan Walter Jones, Learning Advisor, UQ Student Services.

DAY 3: Friday 31 May

This morning you may choose to attend either “**Basic search tips**” or “**Advanced search skills**”. Please select the session that will provide you with the most value.

You are welcome to attend both sessions.

9AM – 10AM

Session 7: Basic search tips

Are you new to database searching?

Be set up for research success with this fundamental search strategy workshop.

The UQ Librarian Team will run a demonstrative presentation on databases and literature searches relevant to the type of research we do here at IMB.

In this workshop, you will

- Be introduced to research databases (including Web of Science and PubMed) and Endnote
- Learn basic search techniques
- Practice searching on UQeSpace and Google Scholar

Requirements:

- A laptop or tablet to practice applying the strategies taught in the workshop.

About the presenters: Marcos Riba has been a Librarian at The University of Queensland for over 20 years. Marcos has been involved in medicine and health sciences for more than 15 of those years. He specialises in systematic review support and has expertise in scientific databases.

Kyra Stewart is a Librarian supporting the Science and EAIT faculties as part of the Faculty Services Librarian Team at The University of Queensland Library. She has been at UQ since 2021 and can provide support on library services and resources with expertise in scientific databases such as CAS SciFinder.

10AM – 11AM

Session 8: Advanced search skills

Are you familiar with navigating research databases? Are you ready to dive into advanced search techniques?.

Learn how to conduct advanced literature searches in this one-hour tutorial.

In this workshop, you will

- Explore specialised databases (including SciFinder, CAS Formulas and CAS Analytical Methods)
- Learn how to use Boolean operators to build your search strings
- Practice advanced filtering strategies
- Learn how to export references from databases into EndNote.

About the presenters: Marcos Riba, UQ Librarian and Kyra Stewart, UQ Librarian

11AM – 12PM

Session 9: Obtain relevant literature for your literature review

Get a head start on your literature review.

Use PubMed and SciFindern to locate highly relevant literature to your topic alongside experienced UQ Librarians.

This session builds on skills taught in previous sessions.

12PM – 1PM

Lunch break: Enjoy lunch with your cohort

Unwind from the morning session over lunch with your cohort. Please bring your own lunch.

DAY 3: Friday 31 May

1PM – 2PM

Session 10: Managing your time and your mental health in the lab

Effective time management and mental well-being are key to survival in academia.

It often seems there is never enough time in the research environment, where time is restricted by experiments and equipment availability. Scientific research is also notorious for the psychosocial impacts (including impostor syndrome) that make time management even more challenging.

In this session you'll unpack practical strategies and techniques to optimise your time in the lab while prioritising your mental health.

In this workshop, you will:

- Explore time management issues specific to the research environment.
- Consider the psychosocial risks of undertaking scientific research.

By the end of this workshop, you will:

- Possess several strategies for optimising time efficiency. Consider the psychosocial risks of undertaking scientific research.
- Be able to recognise and manage the psychosocial risks in research.

Requirements:

- Bring any planners or timetables you use.

Presenter: Dr Kevan Walter Jones, Learning Adviser, UQ Student Services.



DAY 3: Friday 31 May

2PM – 3PM

Session 11: Science communication essentials

For your research to have impact, it needs to be more than just useful, it must also be communicated effectively. In this workshop, you will hone your science communication skills and learn how to communicate with clarity and influence.

You will also connect with IMB's expert Marketing and Communications Team: a group of seasoned science communicators. Our Marketing and Communications Team are here to empower and guide you with communicating your research to diverse publics during your candidature.

In this workshop, you will:

- Learn the need for, and purpose of, hooks in research paper introductions and presentations.
- Explore several types of hooks suitable for different audiences and contexts.
- Learn key elements of effective rhetoric for delivering engaging, memorable and influential research presentations.
- Meet members of IMB's friendly Marketing and Communication Team

By the end of this workshop, you will have:

- An effective hook for the introduction to a research presentation.
- A refined headline statement to introduce your research.

Pre-work requirements:

- Read a short instructional sheet on the [structure of a 'Headline statement to research'](#)
- Bring a draft headline statement (if you have one). Please email your draft headline statement to d.rowland@uq.edu.au the week before HDR Training Week.

Access the information sheet on the structure of a 'Headline statement to research':



Presenter: Dr David Rowland, Learning Adviser, UQ Student Services.

3PM – 4PM

Networking event: Connect and network with IMB Group Leaders

HDR Training Week will conclude with a catered social event on the QBP rooftop.

Enjoy complimentary bar service and snacks while networking with IMB Group Leaders.

The IMB Group Leaders are excited to welcome you to our team and support you through your PhD. Don't miss this special opportunity to connect with them; they will be there specifically to meet you!



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